

California Department of Health Services
Genetic Disease Branch
Expanded AFP Screening Program

850 Marina Bay Parkway, F175, Richmond, CA 94804 • Phone 510/412-1502 • Fax 510/412-1547

CALIFORNIA EXPANDED AFP SCREENING PROGRAM UPDATE
MAY 2007

New Cut-off for Smith-Lemli-Opitz Syndrome (SLOS) Screening

When the screening program for SLOS was begun in 2002, the estimated prevalence of SLOS was 1 in 20,000. The California Expanded AFP Screening Program has used a risk calculation for SLOS that was based on that estimate. Recently, the results of a large multi-center study of SLOS were published [Craig et al, Identifying Smith-Lemli-Opitz syndrome in conjunction with prenatal screening for Down syndrome, Prenat. Diagn. 2006 Sep;26(9):842-9.] In this paper, the authors report that the prevalence of SLOS is closer to 1 in 100,000, about five times lower than previously estimated.

Consequently, the California Expanded AFP Screening Program has decided to revise the risk calculation for SLOS to correspond to the lower prevalence. The reported patient risk will be reduced by a factor of five. The cut-off for reporting a patient as screen positive will also be reduced by a factor of five, from 1:50 to 1:250. The net effect is that the same patients will be identified as screen positive, but the reported risk numbers will more accurately correspond to their actual risk. The screen positive rate (0.25%) and the detection rate (60%) remain the same.

The result mailers for SLOS screening will reflect the revised cut-off of **1 in 250** starting with specimens received for Expanded AFP screening as of **May 14, 2007**. Although this revised cut-off is based on new information about the prevalence of Smith-Lemli-Opitz syndrome, please remember that SLOS Screen Positive results are largely based on very low unconjugated estriol (uE3) values. The most common finding is fetal demise. Other causes of screen positive results are pregnancy complications, chromosomal abnormalities, and placental steroid sulfatase deficiency.

Recent ACOG Bulletin on Screening for Fetal Chromosomal Abnormalities

The American College of Obstetricians and Gynecologists (ACOG) has recently published a practice bulletin on "Screening for Fetal Chromosomal Abnormalities" (Obstet Gynecol 2007; 109:217-27). Current and future improvements to the California Expanded AFP Screening Program are designed to allow the California Program to meet the guidelines established in the ACOG bulletin.

1. Neural Tube Defect Screening

The ACOG bulletin recommends that "Neural tube defect screening should be offered in the second trimester to women who elect only first-trimester screening for aneuploidy." For women who have had first trimester screening for chromosome abnormalities, the Expanded AFP Screening Program now provides the option to have NTD/SLOS Only Screening in the second trimester.

(CONTINUED ON OTHER SIDE)

If you offer your patients the second trimester “NTD/SLOS Only Screening” option, please download the updated *Patient Information and Consent/Refusal Form for NTD/SLOS Only Screening* from the web site www.dhs.ca.gov/gdb (Select “Prenatal Screening Section”, then “Information for Patients”); or order them from the AFP Supplies desk phone 510-412-1441 or toll free 866-718-7915, select #3, or fax 510-412-1553.

The Patient Information and Consent/Refusal Form for NTD/SLOS Only Screening is intended to be a supplement to the Expanded AFP Screening Program’s Basic Booklet (patients under 35) or Choices Booklet (patients 35 or older). Patients must still receive the current booklets. The February 2007 Program Update regarding NTD/SLOS Only Screening is also in the Prenatal Screening Section of the website under “Information for Providers.”

2. Second Trimester Quadruple Screen for Down syndrome

The Expanded AFP Screening Program is pleased to announce that the current triple marker screening will expand to quadruple (or “quad”) screening with the addition of the analyte Inhibin in mid-July 2007. This analyte will allow the program to increase the detection rate for Down syndrome while also decreasing the screen positive rate. In early July, the Program will communicate with prenatal care providers about the details of the improvement in Down syndrome screening using a four marker screening test.

3. Integrated First- and Second-Trimester Screening for Chromosome Abnormalities

By late summer of 2008, The Expanded AFP Screening Program intends to begin offering an integrated prenatal screening program for those women who are able to send both first and second trimester serum samples to the Program. First trimester screening results will be combined with second trimester screening results to produce an integrated risk assessment with higher detection rates for Down syndrome and Trisomy 18.

This program expansion will be developed following the guidelines described in the ACOG Practice Bulletin referenced on page 1. Those prenatal care providers who are not ACOG members can obtain a copy of the Bulletin from their AFP Coordinator office, listed at the bottom of every Expanded AFP result mailer.